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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,237	06/27/2003	Leping Huang	883.0009.U1(US)	8570

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EXAMINER	
CHO, HONG SOL	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/608,237	HUANG, LEPING	
	Examiner	Art Unit	
	Hong Cho	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 10-13, 21 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Cain (US 6961310).

Re claims 1 and 12, Cain discloses a wireless network comprised a source node (figure 2, element 1), a destination node 4 (figure 2, element 4) and intermediate nodes (figure 2, elements 2, 3 and 5) (*a wireless network comprised of end nodes and at least one intermediate node*). Cain discloses the source node 1 initiating a route search by sending out route request packet (*at an originating node of a session with a destination node, initiating a route search by sending a Route Request message*, column 5, lines 9-16), the destination node generating a route reply packet to the source node with link delay metric (*at the destination node, or another node having knowledge of the destination node, replying to the originating node with a Route Reply message when*

there is a valid route, where route delay information relative to the responding node is contained within the Route Reply message, column 5, lines 34-37) and selecting a best route to the destination with minimum hop count route (*selecting a route with a smallest route delay to send a packet from the originating node to the destination node*, column 7, lines 65-67).

Re claims 2 and 13, Cain discloses a source node initiating a new route discovery in case of route failure (*if either one of the originating node or the destination node detect a violation of path Quality of Service, initiating a re-route search*, column 7, lines 3-11).

Re claims 10, 11, 21 and 22, Cain discloses the network operating in accordance with an Ad Hoc On-Demand Distance Vector (AODV) routing protocol (column 7, lines 55-56).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cain in view of Ricciulli (US 20040022194).

Re claims 3 and 14, Cain discloses all of the limitations of the base claim, but fails to disclose initiating a re-route search if the route delay exceeds a threshold route delay value. Ricciulli discloses selecting a new route if the measured delay on a given route is predefined threshold value (paragraph [0056], lines 5-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the network of Cain to implement the feature of determining if the measured delay on a given route is predefined threshold value to initiate route search for the benefit of improving the quality of transmission.

Claims 4, 5, 15, 16, 23, 24, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cain in view of MeLampy et al (US 20030016627), hereinafter referred to as MeLampy.

Re claims 4, 15 and 23, Cain discloses all of the limitations of the base claim, but fails to teach determining the route delay between an intermediate node and the destination node by receiving a probe message sent by the originating node to the destination node, recording a time of arrival of the probe message, forwarding the probe message towards the destination node, receiving a response to the probe message from the destination node, recording a time of arrival of the response to the probe message and calculating the round trip path delay between itself and the destination node by subtracting the recorded time of arrival of the probe message from the recorded time of arrival of the response to the probe message. MeLampy discloses measuring route delay

between a media router and an endpoint by using timestamp of the sent and received packet (paragraphs [0044]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Cain implement the teaching of MeLampy in measuring route delay using timestamp so that the measured route delay would be used in determining the selection of routing path.

Re claims 5, 16 and 24, Cain discloses storing the round trip path delay in at least a link table and a routing table of the intermediate node (column 8, lines 43-49).

Re claims 29 and 30, Cain discloses the network operating in accordance with an Ad Hoc On-Demand Distance Vector (AODV) routing protocol (column 7, lines 55-56).

Claims 6-9, 17-20 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cain in view of MeLampy and further in view of Cain et al (US 7068605), hereinafter referred to as Windham.

Re claims 6, 7, 17, 18, 25 and 26, Cain and MeLampy disclose purging failed routes from route table (*updating routing table for all nodes that contain a degraded link route*, column 7, lines 5-8), but fail to disclose periodically determining a received signal strength indication at the intermediate node and if the determined received signal strength indication is below a threshold value, increasing the link delay and stored round trip path delay value. Windham discloses measuring signal strength along a selected route to determine if the signal strength is below QoS threshold (column 9, lines 30-33). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Cain and MeLampy so that the re-route search would be

initiated based on the round trip path delay value related to the measured signal strength along a selected route.

Re claims 8, 19 and 27, Cain, MeLampy and Windham fail to disclose decreasing a link timeout value in the intermediate node to increase the speed of detection of a link break condition. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Cain so that route failure would be indicated earlier by adjusting the link timeout for the benefit of serving time sensitive traffic.

Re claims 9, 20 and 28, Cain discloses initiating reroute search by generating route error packet when route failure is discovered (*in response to detecting the link break condition, sending a Route Error message to the originating node to cause the originating node to trigger a re-route operation*, column 7, lines 2-11).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seema S. Rao
SEEMA S. RAO 3/19/07
SUPERVISORY PATENT EXAMINER
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he
Hong Cho
Patent Examiner
3/16/07